

WHAT IS CLAIMED IS:

1. A projection lens apparatus of a projector, comprising:

a main lens barrel comprising a first projection lens group that expands and projects an image that is incident thereto, and a reflection group that reflects the incident image towards the first projection lens group;

a rear lens barrel comprising a second reflection group that projects the incident image towards the reflection group, the rear lens barrel being connected to the main lens barrel to move forward and backward to adjust an optical axis of the image as projected; and

a pressing mechanism that elastically presses the rear lens barrel with respect to the main lens barrel in the direction of the optical axis, thereby maintaining the rear lens barrel at a predetermined position so that the second projection lens group is not deviated from the optical axis.

2. The projection lens apparatus of claim 1, wherein the pressing mechanism comprises a coil spring disposed within the main lens barrel and wound around an outer circumference of the rear lens barrel, the coil spring being elastically supported in the direction of the optical axis.

3. The projection lens apparatus of claim 1, wherein the rear lens barrel comprises a fastening portion formed on one end, having a thread line

on an outer circumference thereof and screw-engaged with an inner circumference of the main lens barrel, and a flange portion formed on the other end with the outer diameter thereof extending,

the pressing mechanism comprising a coil spring for being engaged around the outer circumference of the rear lens barrel with one end being supported on the flange portion.

4. The projection lens apparatus of claim 3, wherein the main lens barrel includes a thread line formed in an inner circumference for screw-engagement with the fastening portion of the rear lens barrel, with an inner diameter being stepped to support the other end of the coil spring.

5. The projection lens apparatus of claim 3, wherein the pressing mechanism prevents the formation of a gap between the main lens barrel and the rear lens barrel.

6. The projection lens apparatus of claim 3, wherein said rear lens barrel comprises a body portion between said fastening portion and said flange portion.

7. The projection lens apparatus of claim 7, wherein said body portion has a larger diameter than said fastening portion.

8. The projection lens apparatus of claim 7, wherein said flange portion has a greater diameter than the body portion, wherein said flange portion supports one end of said pressing mechanism wound around the body portion.

9. A projection lens apparatus of a projector, comprising:

a main lens barrel comprising a first projection lens group that expands and projects an image that is incident thereto, and a reflection group that reflects the incident image towards the first projection lens group;

a rear lens barrel comprising a second reflection group that projects the incident image towards the reflection group, the rear lens barrel being connected to the main lens barrel to move forward and backward to adjust an optical axis of the image as projected; and

means for elastically pressing the rear lens barrel with respect to the main lens barrel in the direction of the optical axis, thereby maintaining the rear lens barrel at a predetermined position so that the second projection lens group is not deviated from the optical axis.

10. A method of assembling a projection lens apparatus of a projector by screwing a rear lens barrel fitted to a main lens barrel, said method comprising:

guiding a fastening portion of said rear lens barrel along a thread line of the main lens barrel by rotating the rear lens barrel with respect to the main lens barrel;

adjusting the optical axis of a second projection lens group supported on the rear lens barrel; and

elastically holding the rear lens barrel with respect to the main lens barrel by compressing a pressing mechanism.